

PATENT COOPERATION TREATY

PCT


INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 14 JUN 2006

PCT

Applicant's or agent's file reference MJB07577WO		FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2005/050609		International filing date (day/month/year) 11.02.2005	Priority date (day/month/year) 11.02.2004	
International Patent Classification (IPC) or national classification and IPC INV. A01G23/06 B02C18/08 B02C18/14				
Applicant MULTI-TIP DESIGNS LIMITED et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 3 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 06.09.2005		Date of completion of this report 13.06.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Bunn, D Telephone No. +49 89 2399-2086		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/050609

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1, 3-8	as originally filed
2	received on 06.09.2005 with letter of 05.09.2005

Claims, Numbers

1-16	received on 06.09.2005 with letter of 05.09.2005
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Drawings, Sheets

1/8-8/8	as originally filed
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☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/050609

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

V. Reasoned statement

1. Independent claim 1 is a combination of the features of originally-filed claims 1 & 2, while claims 2-16 correspond to claims 3-17 as filed, such that the requirements of Article 34(2)(b) PCT are fulfilled.
2. US-B1-6 375 106 (D1) discloses a tooth 32 for use in a grinding wheel comprising a main body including a slot 34 comprising two substantially planar surfaces (fig.3) *suited* for, in use, engaging with a slot in a rotor, and a cutting face 14 connected to and extending away from the main body, as in lines 1-4 of claim 1.
The further feature "wherein, in use, the force in the plane of the rotor is transferred onto the rotor via one of the planar surfaces provided on the slot" merely relates to the manner in which the tooth is used, and not to any technical feature thereof. As it would be perfectly possible to mount the tooth of D1 such that said force is transferred to the rotor via one of said planar surfaces, it follows that this feature is likewise derivable from D1.
The cutting face 14 of D1 comprises a single tip arranged transversely to the direction of rotation, and there would be no reason for the skilled person to adopt any other configuration (cf. col.2, l.16-26 & fig.4). It follows that the remaining feature of claim 1 "wherein the cutting face includes at least two tips which are perpendicular to each other" is not derivable from the available prior art.
D1 is the only prior art disclosure of a tooth with a slot comprising two planar surfaces.
It follows that the subject matter of claim 1 meets the requirements of novelty and inventive step, Article 33 PCT.
3. D1 further discloses a grinding unit comprising a rotor 16 with a rim, teeth 32 and fixing means 26 for retaining the teeth (see, in particular, fig.3). The unit of claim 5 differs from that of D1 in that:
 - i) the teeth are those of claim 1; and
 - ii) a plurality of slots are provided around the rim, in which slots the teeth are retained.Concerning feature i), as indicated above the teeth of claim 1 are not suggested by the available prior art.

Concerning feature ii), while various documents disclose rotors with slots provided around the rim, in each case these are disclosed in combination with **non-slotted** teeth. There is no prior art disclosure of a slotted rotor in combination with slotted teeth. It follows that the subject matter of claim 4 meets the requirements of novelty and inventive step, Article 33 PCT.

4. Claims 2-3 & 5-16 relate to preferred embodiments of the tooth and grinding unit of claims 1 & 4 respectively, and so likewise meet the requirements of Article 33 PCT.

VII. Certain defects in the application

1. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from D1 being placed in the preamble.
2. The features of the claims are not provided with reference signs placed in parentheses, Rule 6.2(b) PCT.

VIII. Certain observations on the application (clarity)

1. Although claims 1 & 4 are drafted as separate independent claims, they effectively relate to the same subject-matter and differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.